Peculiarities regarding environmental protection in Romania. Regional analysis

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ABSTRACT: A sustainable development cannot be achieved without strategies and policies aiming to preserve the natural resources and ecosystems. Along with collective actions, increasing the level of general awareness regarding environmental protection, nowadays, in the context of the actual environmental crisis, is almost mandatory also at individual level. In our study, we analyzed the evolution of perceptions related to the priority given to environmental protection in the eight development regions of Romania, using data from World Values Survey (waves 1994-1998; 2005-2009; 2010-2014; 2017-2020). The entry data showed an interesting evolution of these perceptions and highlighted two regions with significant levels of concern towards environmental protection: West and Bucharest-Ilfov. We also attempted to identify if there are different regional patterns regarding the actions for protecting environment, i.e. the expenditures for environmental protection, the active involvement in ecological movements, the behavior towards municipal waste recycling, existence of green spaces, as indicators of the level of concrete participation in pro-environmental activities, in relation to the average personal incomes and spending. In this regard, we applied the Principal Component Analysis and the Hierarchical Cluster Analysis, as a complementary measure for the first one. The results showed major differences between the eight regions of Romania, observing that the ones with high values of medium personal income and spending also register high levels of involvement in environmental protection. The major differences were observed between Bucharest-Ilfov, on one hand, and, North-East, South-Muntenia and South-West Regions of Romania, on the other hand.

KEY WORDS: environmental protection, regional analysis, Romania.

1. Introduction

Pressure on Earth's finite resources is growing, so certain imperative measures must be implemented to overcome this challenge. In this regard, it is not possible to still neglect the environmental problems that require decisive steps for responding in a proper way to them.

However, along with collective actions, increasing the level of general awareness related to this aspect is also useful, if not mandatory, and requires changes of individuals' perceptions and attitudes (Dunlap and Scarce, 1991; Inglehart, 1995; Kemmelmeier, 2002; Poortinga et al., 2004; Sneddon et al., 2006; Dunlap and York, 2008; Gatti, 2016; Brieger, 2018; Ulman, 2018; Diekmann and Franzen, 2019; Ulman and Dobay, 2020). This also requires to place profit and economic prosperity on the short run on the second place whenever it is possible, focusing also on the environmental problems that really exist and that cannot be solved by themselves.

Analyzing the national and regional levels of the active participation in pro-environmental activities in Romania, Ulman and Dobay (2020, p. 193) concluded that there are no major differences among the development regions in this regard, as their levels were very low during the wave 6, in the period 2010-2014. It was also observed the fact that the highest levels of positive perceptions were registered in the Central Region. Continuing this approach, the aim of this paper is to firstly analyze the perceptions and attitudes related to protecting environment in Romania in terms of confidence on the environmental protection movement, membership in an environmental organization and prioritization of protecting environment versus economic growth in wave 7, in the period 2017-2020, and their dynamics between 1994 and 2020. Secondly, it aimed to identify different regional patterns regarding the expenditures for environmental protection, the active involvement in ecological movements, the behavior towards municipal waste recycling and existence of green spaces, as indicators of the level of concrete participation in pro-environmental activities, in relation to the average personal incomes and spending.

2. Study area

According to NUTS level 2, Romania has eight development regions: North-East, North-West, South-East, South-Muntenia, South-West Oltenia, West, Center and Bucharest-Ilfov. Each region has its own demographic and economic peculiarities that we intend to briefly describe in a similar manner like Ulman and Dobay (2019, pp. 602-605), but with focus on the data available on Eurostat for 2019.

The North-East Region is the largest one, with 37000 km^2, representing 15.5 % of the total area of the country, and most densely populated region (87.5 inhabitants per km^2, comparing to the population density of Romania equal to 82.7 inhabitants per km^2 or that of EU equal to 109 inhabitants per km^2). It is formed of six counties that belong to the historical region of Moldavia with a population of 3198564 inhabitants, representing 16.48 % of the total population (19 414 458 inhabitants). North-West Region of Romania has a surface equal to 34160.5 km^2, with a population of 2552112 inhabitants, meaning 13.15 % from the total number of inhabitants of the country, and a population density of 75.6 inhabitants per km^2. Being also a part of the first Romanian Macro-Region, the Centre Region has a surface almost similar (34099.7 km^2) with the one of the North-West Region, with a number of inhabitants equal to 2318272, representing 11.94 % of the total population. It has a lower population density than the precedent described regions, equal to 68.8 % inhabitants per km^2. The South-East Region is characterized as follows: it has a surface equal to 35761.7 km^2, with 2396171 inhabitants, representing 12.35 % of the total population and with a population density equal to 70.9 inhabitants per km^2. With a surface equal to 34453 km^2 and a population of 2929832 people, representing 15.09 % of the population, the South-Muntenia Region is the most densely populated region from the country, except Bucharest-Ilfov, with a population density of 86.1 inhabitants per km^2. The South-West Oltenia Region has a surface of 29211.7 km^2, a population density equal to 66.9 inhabitants per km^2, with 1926860 inhabitants representing 9.93 % of the total population of Romania. West Region is characterized

by the following demographic particularities: a surface equal to 32033.2 km^2 and having 1777474 inhabitants that represent 9.16 % of the total number of population. Its density is equal to 55.7 inhabitants per km^2. Lastly, Bucharest-Ilfov has a surface equal to 1821.2 km^2 and 2315173 inhabitants, registering the highest population density of 1321.9 inhabitants per km^2 from all regions of Romania.

Pointing out the most important differences between the levels of regional demographic characteristics chosen to be analyzed, it must be mentioned that the North-East Region of Romania is the one with the largest surface and with the highest number of inhabitants. Still, it is not positioned on the first place when the population density is analyzed, Bucharest-Ilfov and, then, South-Muntenia Region being in front of it. The lowest levels are met in Bucharest-Ilfov and, then, South-West Oltenia regarding the surfaces (km^2) and in West in respect with inhabitants and, also, population density.

Moving on and observing the economic regional particularities, the North-East Region is the one that, although the largest and densely populated, has the lowest level of development, with a GDP in Purchasing Power Standard (PPS) per inhabitant at current market prices in percentage of the EU 28 (2019) average equal to 44 %, while the GDP from the national level is equal to 70 %. Next, in the context in which, at the EU level, economic activity rate (employed and unemployed persons as percentages of the population) is equal to 65 % and, in Romania, it is 60.9 %, in the North-East Region, the activity rate is 69.6 %, and, thus, it can be observed that, between the EU and regional levels, high differences do not exist. Also, regarding the employment rates, when the reference age is between 25 and 64 years, the employment rate of EU is equal to 69.2 %, the one of Romania is 65.8 % and of North-East Region is equal to 73.1 %. Regarding the GDP in Purchasing Power Standard (PPS) per inhabitant at current market prices in percentage of the EU average, the North-West Region's one is equal to 64 % that is higher than the North-East Region's one, but lower than the national average. The region registers an economic activity rate of 61.6 % and an employment rate of 67 %, almost similar with the national and EU ones. In the same terms of regional economic particularities, the Centre Region has: a GDP of 66 %, higher than the one of the above regions; an economic activity rate of 55.2 % and an employment rate equal to 60.2 %. The South-East Region is characterized as follows: a GDP in Purchasing Power Standard (PPS) per inhabitant at current market prices in percentage of the EU average of 58 %; an economic activity rate of 56.6 % and an employment rate equal to 60.4 %. The South-Muntenia Region has a GDP (46 %) lower than the national one (54 %), an economic activity rate of 60.6 % and an employment rate equal to 64.9 %. The South-West Oltenia Region has a low GDP in Purchasing Power Standard (PPS) per inhabitant at current market prices in percentage of the EU average, equal to 54 %; an economic activity rate of 59.8 % and an employment rate equal to 64 %. The West Region is the region with the highest GDP in Purchasing Power Standard (PPS) per inhabitant at current market prices in percentage of the EU average, equal to 71 %. Exception is made by Bucharest-Ilfov that registers a GDP equal to 160 %, considerably higher than the other Romanian regions of development. Regarding the economic activity rate, the West Region has a low one (54.3 %) compared to the one of Bucharest-Ilfov (65.4 %). The same situation is in the case of the employment rate, where the West Region's one is equal to 60.6 % compared to the one of Bucharest-Ilfov's one of 72.3 %.

Analyzing the levels of economic regional particularities, it must be observed that Bucharest-Ilfov has the highest GDP in Purchasing Power Standard (PPS) per inhabitant at current market prices in percentage of the EU average, and both highest economic activity and employment rates. The lowest levels are registered in the case of the North-East Region of Romania, being followed by the South-West Oltenia, but at a relative high distance, equal to 10 %, in terms of GDP and, also, in the case of the South-East and West Regions regarding economic activity and employment rates.

3. Methods

We analyzed the data for Romania and its development regions provided by World Values Surveys (WVS), waves 4-7: 1994-1998, 2005-2009, 2010-2014, 2017-2020, emphasized in the literature as conducting credible and large (since 1991 in almost 100 countries) national representative surveys (Brieger, 2018), also used by other relevant studies for the topic of environmental concern (Inglehart, 1995; Dunlap and York, 2008). Nearby these databases, other necessary data were extracted from the National Institute of Statistics (NIS, 2020) via TEMPO Online for the period of the wave 6: 2010-2014 (Table 1).

Table 1 Definition of the considered variables.

Variables	Description	Source
Confidence: The Environmental Protection Movement	*How much confidence you have in the environmental organizations: Is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?*	WVS, waves 4-7
Protecting environment vs. Economic growth	*Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.*	WVS, waves 4-7
Member of an environmental organization	*Active / Inactive membership: environmental organization.*	WVS, waves 4-7
Given money to ecological organization	*Past two years: given money to ecological organization*.	WVS, wave 6
Spending for environmental protection	*Environmental protection expenditure includes all the expenditures for carrying out the activities of environment observation and protection and refers to environment damages prevention or repair.*	NIS (2015)
Municipal waste recycling rate collected	*The recycling rate is one representative indicator for monitoring progress in regard to waste recycling and it is measured as a percentage (%) of waste recycled from the total waste generated.*	NIS (2012)
Area with green surface	*Green areas are any place prepared with grass, flowers, trees, benches or other decorative or urban furniture elements, used as decoration or for public use.*	NIS (2016)
Medium personal income	*Total average monthly wages by household.*	NIS (2016)
Medium personal spending	*Total average consumption expenditures by household.*	NIS (2016)

Using descriptive analysis, we obtained the national and regional figures regarding perceptions and attitudes towards environmental protection in Romania in terms of confidence on the environmental protection movement, membership in an environmental organization and prioritization of protecting environment versus economic growth from wave 7, in the period 2017-2020, and their dynamics between 1994 and 2020 (waves 4-7).

In the next step, based on the other analyzed variables, i.e. spending for environmental protection, medium personal income, medium personal spending, municipal waste recycling rate collected, area with green surface, given money to ecological organization, Principal Component Analysis (PCA) was used. Analyzing the coefficient values from the Correlation matrix, we evaluated the possibility of PCA's application: high values of the coefficients (higher than +0.5, lower than -0.5) revealed that between the chosen variables significant statistic association does exist. In this case, the results show that the PCA can be applied (the value of the determinant is equal to 0.002). The number of correlation coefficients is equal to 6*(6-1)/2=15. This high value indicates the impossibility to analyze the link between the variables only using the Correlation matrix. For testing the hypothesis of independence between variables, the test significance (Sig. = 0.002) is lower than the assumed risk (α=0.05), which conducts to the decision of rejecting the null hypothesis. Therefore, it can be guaranteed with a probability equal to 0.95 that significant statistic associations between variables exist. Identifying the links between variables is facilitated by observing Kaiser-Meyer-Olkin statistic (KMO), Measure of Sampling Adequacy. In our case, its value (0.539) is higher than 0.5, meaning that the obtained solution is acceptable.

4. Results and discussion

4.1. Perceptions and attitudes related to environmental protection in Romania

Perceptions and attitudes reflecting concerns for environmental issues might be considered as essential drivers of pro-environmental behaviors and, ultimately, of environmental sustainability. In this regard, in order to reveal the peculiarities of environmental concern in terms of perceptions and attitudes in Romania and in its development regions, we analyzed the level of confidence in environmental organizations, the involvement in this type of entities and considerations regarding the proper approach for development (Figure 1).

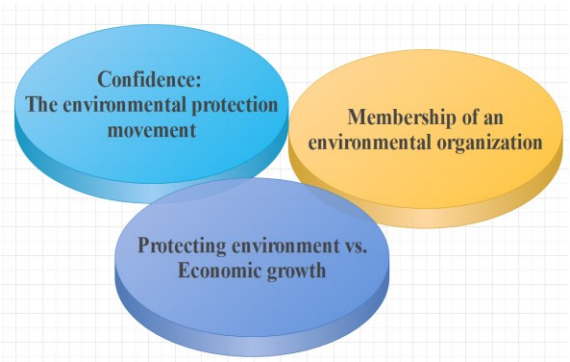

Figure 1 Main aspects highlighting perceptions and attitudes related to environment (source: Authors' representation based on WVS questions).

Further on, we analyzed the dynamics of each considered variable during the last four waves of WVS between 1994 and 2020. As it is shown in Figure 2, the trust in environmental organizations reached the highest levels in the period between 2005-2014 (wave 5 and 6), with 35 %, respectively 34 % of respondents having quite a lot confidence in this regard.

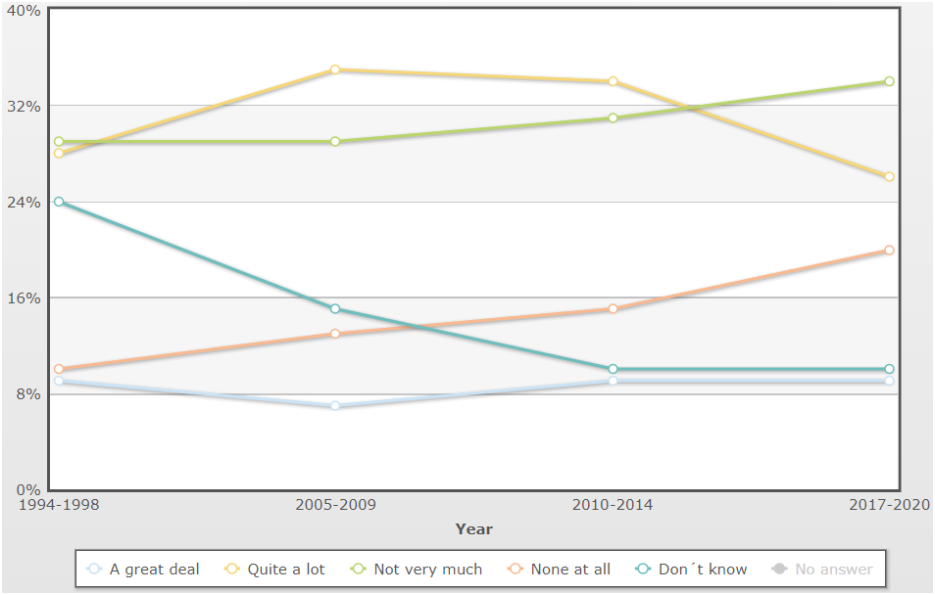

Figure 2 Dynamics of the confidence in environmental protection movement in Romania (source: WVS, wave 4-7).

Moreover, it can be observed the fact that the percentage of persons that do not trust at all that environmental protection movement is increasing from a wave to another, reaching 20 % in the last wave. In the same time, people seem to get more informed on the activities of the existing environmental organizations, observing a decrease of the percentage of people declaring that they do not know about this (from 24 % in wave 4 to 10 % in wave 7).

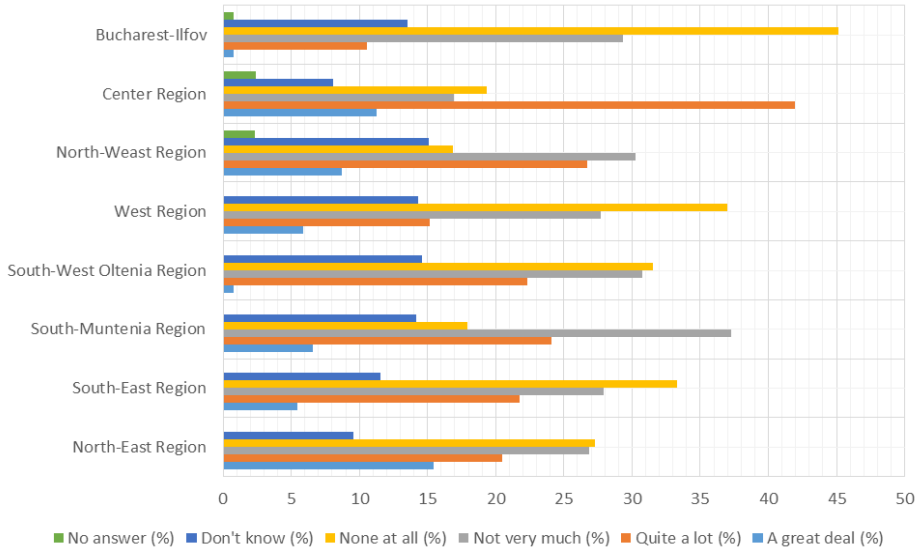

Figure 3 The confidence in environmental protection movement by regions (source: WVS, wave 7: 2017-2020).

At the regional level, the lowest level of confidence is recorded in Bucharest-Ilfov and West Region and the highest in Center and North-East regions as it is shown in Figure 3.

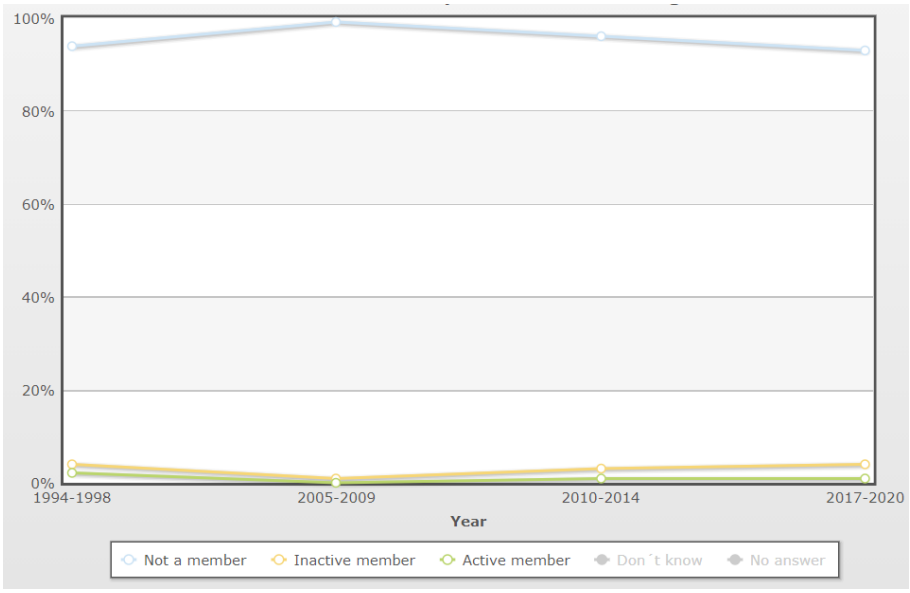

Figure 4 Dynamics of the membership in environmental organizations in Romania (source: WVS, wave 4-7).

Unfortunately, in Romania, the membership in environmental organizations is quasi-inexistent (Figure 4), being no tradition in this regard. Only in the Center Region, we noticed some memberships, but it proved to be just on the paper, as 27.42 % of the respondents declared themselves inactive members. A better situation seemed to be in the North-East Region, with a shy sign of activity, 2.73 % of respondents being active members in environmental organizations (Figure 5).

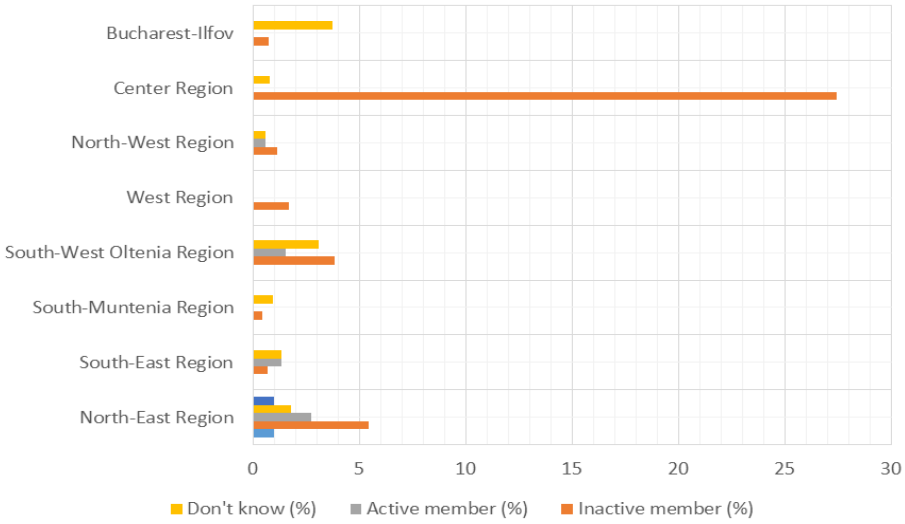

Figure 5 The membership in environmental organizations by regions (source: WVS, wave 7: 2017-2020).

Regarding the prioritization of protecting environment versus economic growth, it can be noticed the fact that there were periods in which protecting environment was preferred (wave 4 and 5) and years with a predominant option for economic growth (wave 6 and 7) (Figure 6).

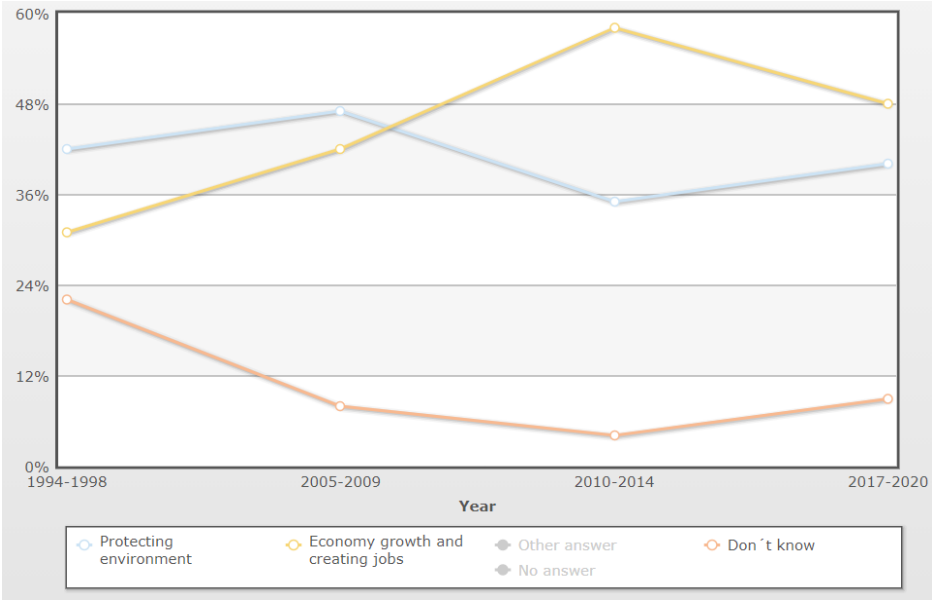

Figure 6 Dynamics of the prioritization of protecting environment vs. economic growth in Romania (source: WVS, wave 4-7).

Also, there are less undecided people regarding the development approaches, with 22 % of respondents not knowing what to choose in 1994-1998 compared to 9 % in 2017-2020, their answers seeming to be influenced by the evolution of the macroeconomic conjuncture. Thus, in the period between 2010 and 2014, 58 % of the respondents considered economic growth and creating jobs as the necessary strategy for development after crisis. For 2017-2020, economic growth was considered as the main option for development by the respondents from all the regions, but with the highest percentages in Center, West and South West (Figure 7). The major differences between the percentages of respondents opting for economic growth versus protecting environment were recorded in West and Center regions (39.49 % and 37.90 %, respectively). In South-West, Bucharest-Ilfov and North-West, the responses are balanced between the two major options, but with slight preferences for environmental protection in the last two ones. In this way, even in the case of perceptions, the Romanian respondents seem to be not very open to consider and prioritize environmental protection and, accordingly, that type of development that aims at assuring a sustainable future, i.e. the one that attends to integrate the environmental dimension nearby the basic concerns regarding economic and social ones. As it is commonly known, the concrete actions prioritizing environment and the actions for protecting it are even much harder to be put into practice when the general awareness in terms of perceptions and attitudes registers a low level (Ulman and Dobay, 2020). In this way, although the perspective of national development implemented from the lens of sustainability is among the largest concerns of the actual societies, it seems that the Romanian citizens still have to develop their environmental concern for being able to follow the path of protecting more the environment.

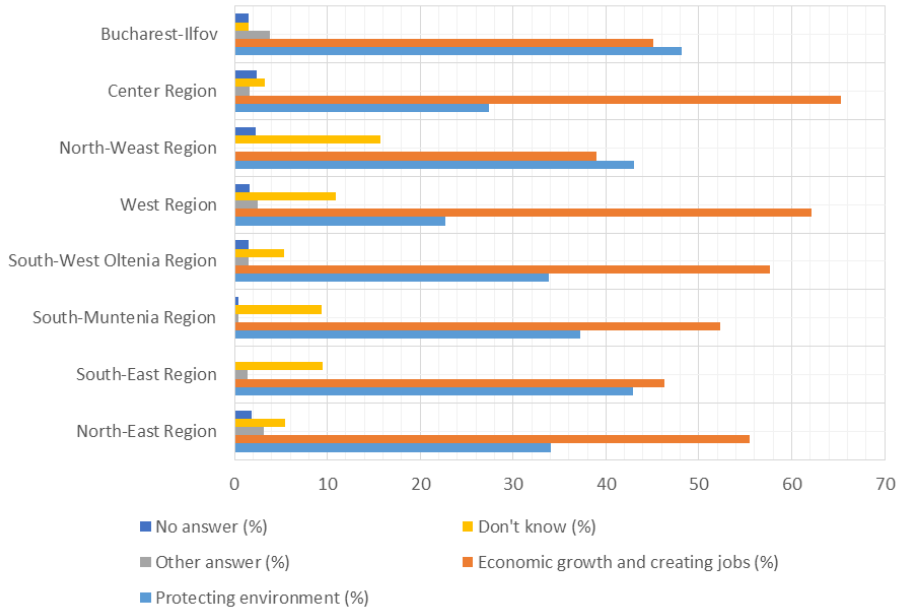

Figure 7 The prioritization of protecting environment vs. economic growth by regions (source: WVS, wave 7: 2017-2020).

Taking into consideration these challenging observations related to preferred development approaches in the case of Romanian respondents, we analyzed the dynamics of the responses at regional levels over the entire period of the last four waves (Figure 8). The results showed a worrying situation in three regions (West, Center and South-West), where the preference for the prioritization of protecting environment significantly decreased in the analyzed period.

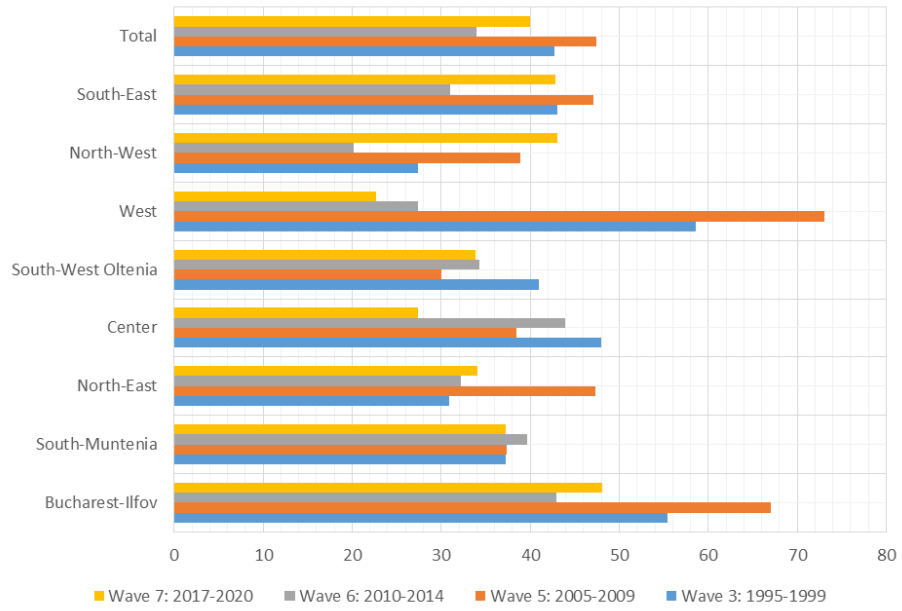

Figure 8 The evolution of the prioritization of protecting environment vs. economic growth by regions (source: WVS, waves 4-7: 1994-1998, 2005-2009, 2010-2014, 2017-2020).

Concluding, the most prominent figures in terms of perceptions and attitudes related to environment at national level for the last wave are not very encouraging, as Figure 9 shows. In this regard, it was observed a lack of confidence in the environmental organizations, a very low involvement in their activities, and a high preference for the classical model of growth, all these negatively impacting the environmental protection.

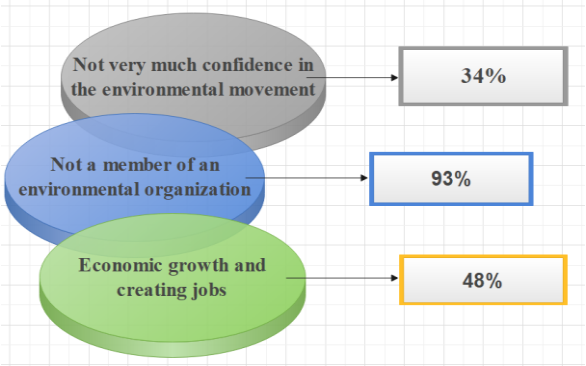

Figure 9 National most prominent figures in terms of perceptions and attitudes related to environment (source: WVS, wave 7: 2017-2020).

This low involvement is reflected by the low percentage of people (5 %) being members in environmental organizations, from which 86.06 % are inactive members and only 17.39 % considering that it is important to prioritize environmental protection (Figure 10).

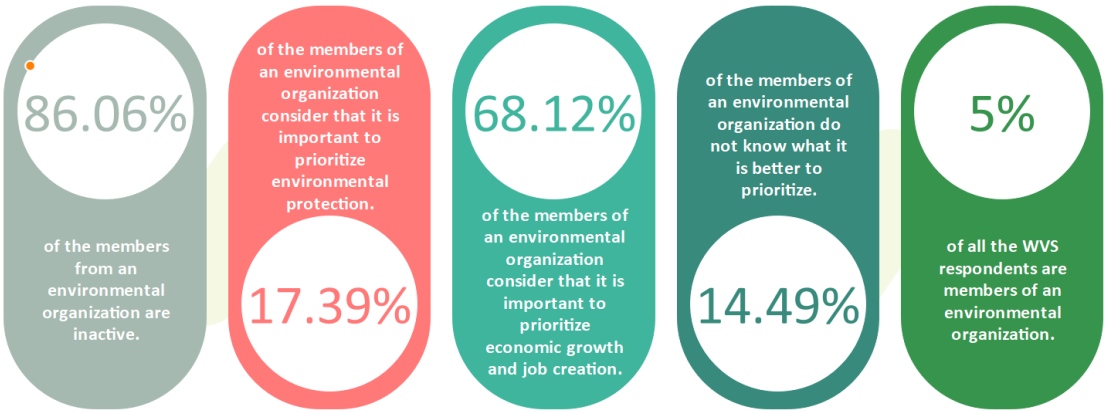

Figure 10 Positions of members in environmental organizations regarding the prioritization of protecting environment vs. economic growth (source: WVS, wave 7: 2017-2020).

4.2. Active participation of Romanians to protecting environment – regional analysis

For observing the peculiarities of environmental concern in terms of active participation in Romania and in its development regions, we analyzed the levels of expenditures for environmental protection, the active involvement in ecological movements, the behavior towards municipal waste recycling and the existence of green spaces (Figure 11).

Figure 11 Main aspects highlighting active implication in environmental protection (source: WVS and NIS).

Taking into consideration that, among all the aspects that aim to investigate the level of people's awareness regarding environmental problems, both in intent (perceptions) and active participation, the action of giving money to ecological organization is the most representative one for evaluating this level of awareness, being the most relevant proof that the respondent does have a pro-environmental position. This is the reason for choosing this variable as the most important individual one for our analysis from the regional level in order to understand if there are different regional individual patterns, besides the collective ones, indicating the level of awareness, like: the expenditures for environmental protection, the active involvement in ecological movements, the behavior towards municipal waste recycling and the existence of green spaces. These chosen variables for reflecting the active participation in environmental protection were analyzed in relation to the average personal incomes and spending in order to find our if they are correlated with each other and also if there are differences at regional level.

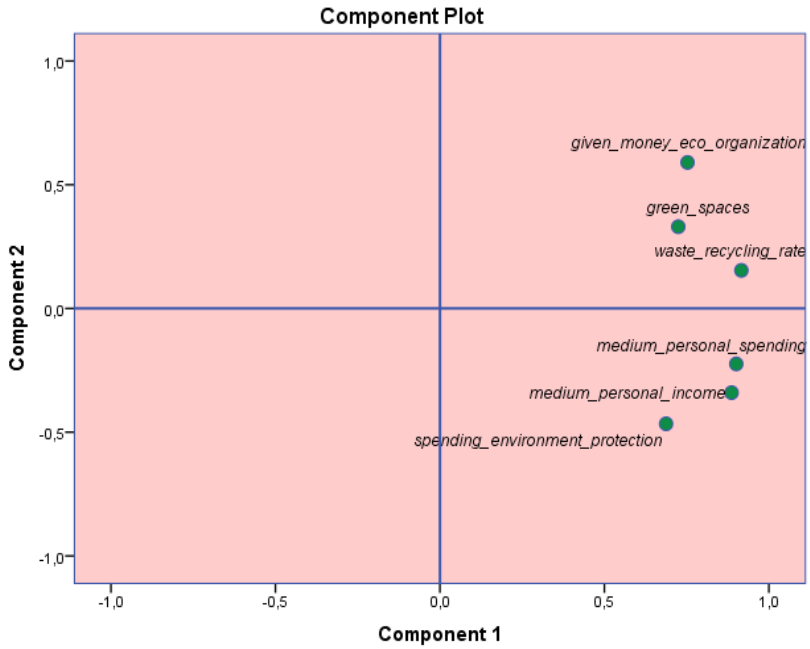

Figure 12 Representation of the chosen variables in the first two factorial axes system.

The graphic representation (Figure 12) allows the observation of the variables' position in the factorial axis system. Analyzing the graph, we can identify the direction and the intensity of the link between variables. Regarding the first aspect, it can be considered that a direct link between the six variables taking into consideration the first factorial axis does exist. Thus, the variables related to personal income and spending, nearby spending for environmental protection are positively correlated to given money to ecological organizations, area of green spaces and the rate of municipal waste recycling.

In Figure 13, each region is positioned on the graph related to its coordinate on the specific axis. The position is interpreted taking into consideration the origin of the axes that represent the unit with coordinates given by the medium levels of the considered variables. So, the graphic facilitates the analysis of nearness and remoteness between the regions. Significant differences exist between the Romanian regions from the point of view of their registered values of the chosen variables (Figure 13). So, there may be identified different regional patterns of spending for environment protection, money given to ecological organization, municipal waste recycling rate, green spaces, but also, related to medium personal spending and income. Also, taking into consideration that all the coordinates on the first axis are positive, it can be concluded that the regions, for example, with high values for medium personal income and spending, also register high levels for spending for environment protection, money given to ecological organizations, recycling rate of municipal waste and green spaces. Contrary, the regions with low levels of personal income and spending tend to invest less in environment.

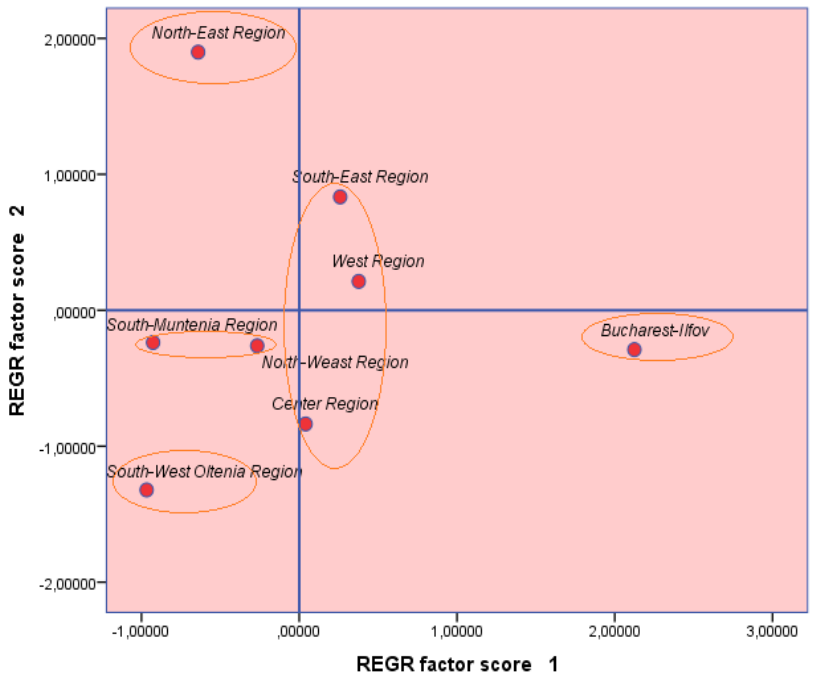

Figure 13 Representation of the regions variables in the first two factorial axes system.

The North-East, South-Muntenia, North-West and South-West Oltenia Regions have negative coordinates on the first factorial axis, in this way, having a different behavior and opposing to South-East Region, West Region and Bucharest-Ilfov, with positive ones. The major differences can be observed between Bucharest-Ilfov, on one hand, and, North-East, South-Muntenia and South-

West Regions of Romania, on the other hand. Also, explaining the position of regions through integration of discussed variables in analysis reveals the fact that high levels of given money to ecological organization, municipal waste recycling rate, green space, spending for environment protection, medium personal income, medium personal spending variables are registered for Bucharest-Ilfov. Contrary, low levels of these variables appear especially for North-East, South-Muntenia and South-West Oltenia regions, while the other ones (South-East, West, North-West and Center) tend to have medium levels. On the basis of this graphical representation, homogenous groups can be identified.

In this way, Figure 13 puts into evidence the possibility to identify some clusters. So, we can observe the grouping of the regions into five clusters as it follows: cluster 1 (North-East Region); cluster 2 (South-Muntenia and North-West regions); cluster 3 (South-West Oltenia Region); cluster 4 (South-East, West and Center regions); cluster 5 (Bucharest-Ilfov). The application of the Hierarchical Cluster as a complementary measure for PCA is recommended when the aim is to group the statistic units in homogenous clusters, especially because their representation in the factorial axes system using PCA makes difficult the precise identification of the groups. So, in order to compare the obtained results from PCA with the results of Hierarchical Cluster, we classified the regions and the obtained dendrogram using average linkage between groups is represented in Figure 14, showing the same five clusters identified using the PCA.

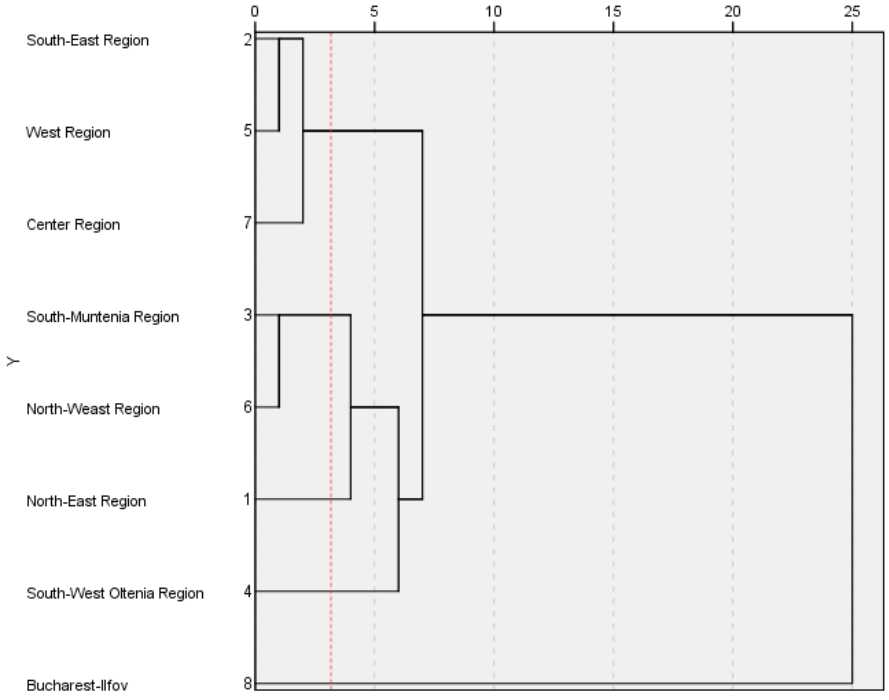

Figure 14 Dendrogram using Average Linkage (between groups).

Cluster 1, formed by the North-East Region, is characterized by levels under national averages for the following variables: 1) spending for environment protection, 2) medium personal income, 3) medium personal spending and 4) municipal waste recycling rate and over national averages for: 1) money given for environmental organizations and 2) green spaces as a percentage of the total

regional surface, mentioning that, for the spending for environment protection and medium personal income, the region registers the lowest levels.

Cluster 2, formed by South-Muntenia and North-West regions, is characterized by levels under national averages for the following variables: 1) spending for environment protection, 2) given money for environmental organization, 3) municipal waste recycling rate and 4) green spaces and nearby national averages: 1) medium personal income and 2) medium personal spending, observing that North-West Region registers higher levels of all the considered variables (excepting the one referring to spending for environment protection), but with no high differences.

Cluster 3, composed of South-West Oltenia Region, is characterized by levels under national averages for: 1) medium personal income (higher than North-East Region), 2) medium personal spending (lower than North-East Region), 3) given money for environmental organization (the lowest level from all the eight regions), 4) municipal waste recycling rate and 5) green spaces and over national averages for: 1) spending for environment protection.

South-East, West and Center regions, united in Cluster 4, are characterized as a group by levels nearby national averages for: 1) medium personal income, 2) medium personal spending and 3) green spaces and over the national averages for: 1) spending for environment protection, 2) given money for environmental organization and 3) municipal waste recycling rate.

Finally, the last cluster that includes only Bucharest-Ilfov remarks on all the analyzed aspects, having the highest levels for all the variables taken into discussion: 1) spending for environment protection, 2) medium personal income, 3) medium personal spending, 4) past two years: given money to ecological organization, 5) green space and, also: 6) municipal waste recycling rate (kilo/person/year).

In this way, the major differences can be observed between Bucharest-Ilfov, on one hand, and, the North-East, South-Muntenia and South-West regions of Romania, on the other hand. Thus, high levels of given money to ecological organization, municipal waste recycling rate, green space, spending for environment protection, medium personal income, medium personal spending variables are registered for Bucharest-Ilfov. Contrary, lowest levels of these variables appear especially for North-East, South-Muntenia and South-West Oltenia regions. The other regions (South-East, West, North-West and Center) tend to have medium levels. These results tend to complete the ones of other study analyzing, at the Romanian national and regional levels, the active participation in pro-environmental activities (Ulman and Dobay, 2020), concluding that, in the period of wave 6, i.e. 2010-2014, there were found no major differences, as the levels were very low, while observing that, with regard to the positive perceptions, the levels were the highest in the Central Region.

5. Conclusion

In this paper, we firstly analyzed the perceptions and attitudes related to protecting environment in Romania in terms of confidence in the environmental protection movement, membership in an environmental organization and prioritization of protecting environment versus economic growth in wave 7, in the period 2017-2020, and their dynamics between 1994 and 2020.

We noticed an ascendant trend of the number of people that are more informed in terms of environmental issues, but also with a higher lack of confidence in the environmental organizations and a very low involvement in this type of entities as members. Although the membership in environmental organizations is almost quasi-inexistent, there are some slight signs of implication in the Center Region, but seeming to be just on the paper. In addition, it was also noticed a high preference for the classical model of development, based on economic growth and creating jobs, to the detriment of setting environmental protection as the development priority. These findings were more evident for 2017-2020, especially in the Center, West and South West regions.

Also, we managed to identify different regional patterns regarding the expenditures for environmental protection, the active involvement in ecological movements, the behavior towards municipal waste recycling and the existence of green spaces, as indicators of the level of concrete participation in pro-environmental activities, in relation to the average personal incomes and spending. Thus, the regions with high values for medium personal income and spending, also register high levels for spending for environment protection, money given to ecological organization, municipal waste recycling rate collected and green spaces. Contrary, the regions with low levels of personal income and spending tend to invest less in environment. The major differences can be observed between Bucharest-Ilfov, on one hand, and, North-East, South-Muntenia and South-West Oltenia regions of Romania, on the other hand. High levels of given money to ecological organization, municipal waste recycling rate collected, green space, spending for environment protection, medium personal income, medium personal spending variables are registered for Bucharest-Ilfov. Contrary, lowest levels of these variables appear especially for North-East, South-Muntenia and South-West Oltenia regions, while the other ones (South-East, West, North-West and Center) tend to have medium levels.

Even if it is a shy attempt of analyzing the environmental concern in the Romanian context, our study showed clearly that there is a direct correlation between the economic components and the pro-environmental attitudes and behaviors, confirming that type of approach from the theory of sustainable development that put the economic dimension at the basis of the environmental (and social) wellbeing.

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